IN THE ABSTRACT:

The Abstract as amended below with a replacement Abstract shows added text with underlining and deleted text with ~~strikethrough~~.

An amount of ASE generated changes due to a temperature and respective powers of ~~a signal~~ signals input to and output from ~~power of~~ an optical amplifying unit, causing ~~and causes~~ a fluctuation of a gain of the optical amplifying unit. A photodiode on an input side and a photodiode on an output side detect the input and output powers, and ~~a~~ temperature detecting unit detects ~~a~~ an operating temperature of ~~an~~ the optical amplifier. A control unit corrects the amount of ASE generated, based on at least one of the detected input and output signal powers and on the detected temperature according to AGC control, which controls driving. ~~Driving~~ of an excitation LD for the optical amplifier ~~is controlled by a corrected result, and~~ to keep a gain of the optical amplifier ~~is kept~~ constant.

OK to enter
10/3/06